

Title of the Invention

PROTECTIVE METHOD USING REVERSIBLE GARMENT FOR MILITARY OR PARAMILITARY FIREFIGHTER

Cross-Reference to related Application

5 This application is a continuation of United States Patent Application Serial No. 10/350,862, which was filed on January 24, 2003.

Technical Field of the Invention

10 This invention pertains to a protective garment for a firefighter or emergency worker, particularly a military or paramilitary firefighter or emergency worker. This invention contemplates that the protective garment is reversible so as to expose, as an outer shell, either a shell of high visibility or a shell of low visibility.

Background of the Invention

15 Protective garments for firefighters and emergency workers include coats, trousers, overalls, and coveralls. Currently, National Fire Protection Association (NFPA) standards require a protective garment for a firefighter to have reflective trim, which enhances the visibility of the protective garment and, therefore, the visibility of its wearer under smoke-laden and other adverse conditions. Generally, reflective trim is affixed by sewing, adhesively, or otherwise.

20 However, for a military or paramilitary firefighter or emergency worker operating where a tactical operation has developed or is expected to develop, a need for low visibility may override a need for high visibility. Heretofore, a military or paramilitary firefighter or emergency worker may have to be issued two types of protective garments, *i.e.*, protective garments to be worn in a tactical

operation, in which the need for low visibility overrides the need for high visibility, and protective garments to be worn otherwise.

Summary of the Invention

This invention provides a protective garment for a military or paramilitary firefighter or emergency worker. Being reversible, the protective garment has a shell of high visibility and a shell of low visibility. The protective garment is wearable with either shell facing outwardly. The shell of high visibility has portions that are reflective, fluorescent, or both, which the shell of low visibility does not have. Those portions, which face outwardly when the protective garment is worn so that the shell of high visibility faces outwardly, may be provided by reflective trim affixed by sewing, adhesively, or otherwise to the shell of high visibility. Preferably, when facing outwardly, the shell of low visibility appears black, or at least dark, in ambient light. Alternatively, when facing outwardly, the shell of low visibility displays camouflage.

Preferably, except that the shell of low visibility does not have reflective trim or any reflective or fluorescent portions, the shells conform to National Fire Protection Association (NFPA) standards for outer shells of protective garments for firefighters. Preferably, moreover, the shells are equal, or at least similar, in basis weights.

Brief Description of the Drawings

Figure 1 is a front elevation of a protective coat embodying this invention, as worn with its shell of high visibility facing outwardly. Figure 2 is a front elevation of the same coat, as worn with its shell of low visibility facing outwardly. Figures 3 and 4 are cross-sections, as taken respectively along line 3--3 of Figure 1 and along line 4--4 of Figure 2, in directions indicated by arrows.

Detailed Description of the illustrated Embodiment

As illustrated, a protective coat 10 for a military or paramilitary firefighter or emergency worker embodies this invention and has a shell 20 of high visibility and a shell 30 of low visibility. As contemplated by this invention, the shell 20 of high visibility has several strips 40 of reflective trim, which the shell 30 of low visibility does not have. Preferably, when facing outwardly, the shell 30 of low visibility appears black, or at least dark, in ambient light. Alternatively, when facing outwardly, the shell 30 of low visibility displays camouflage.

Preferably, except that the shell 30 of low visibility does not have reflective trim, the shells conform in weight, tear strength, and other characteristics to National Fire Protection Association (NFPA) standards for outer shells of protective garments for firefighters. Preferably, moreover, the shells 20, 30, are equal, or at least similar, in basis weights. A preferred material for the shells 20, 30, is NomexTM material having a basis weight of nine ounces (9 oz.) per square yard, as available commercially from E. I. du Pont de Nemours and Company of Wilmington, Delaware. Such material is available commercially in patterns that display camouflage. ScotchliteTM reflective trim is suitable, as available commercially from Minnesota Mining and Manufacturing Company of St. Paul, Minnesota.

As illustrated, the protective coat 10 has between the shells 20, 30, a layer 50 providing a moisture barrier. Along with the layer 50 providing the moisture barrier, another layer or other layers may be also provided between the shells 20, 30, such as a layer providing thermal insulation. Although a protective coat is illustrated, this invention may be also embodied in other protective garments, such as trousers, overalls, and coveralls.

In a tactical operation, in which the need for low visibility overrides the need for high visibility, a military or paramilitary firefighter or emergency worker may wear the protective coat 10 with the shell 30 of low visibility facing outwardly. Otherwise, the firefighter or emergency worker may wear the protective coat 10 with the shell 20 of high visibility facing outwardly. If a tactical operation develops or is expected to develop while a military or paramilitary firefighter or emergency worker is wearing the protective garment 10 with the shell 20 of high visibility facing outwardly, the firefighter or emergency worker may have an opportunity to doff the protective coat 10, reverse it, and redon it with the shell 30 of low visibility facing outwardly.